

REMARKS

1. Information Disclosure Statement

Upon review of the file, it was noticed that the previously-submitted PTO-1449 form contained a typographical error. Specifically, rather than listing U.S. Patent No. 5,959,581, as was the intent, it listed U.S. Patent No. 9,959,581, which is obviously incorrect. Nevertheless, a copy of the patent was submitted with the IDS and the Examiner initialed the item, therefore indicating that the intended patent, i.e., U.S. Patent No. 5,959,581, was indeed considered. Accordingly, Applicant asks that this patent be made of record either by initialing the new PTO-1449 form inclosed herewith or by listing it on a PTO-892 form.

2. Description of Amendments

Without prejudice, independent claims 1 and 13 have been amended to emphasize that claimed method and system provides an RF grounding path on a piece of glass from an antenna mounting location on the glass to the edge of the glass such that, when the glass is installed in a metal frame of a vehicle, the RF grounding path and the metal frame are electrically coupled through the adhesive disposed between the edge of the glass and the metal frame. The dependent claims have been amended, where appropriate, to make them consistent with the revised independent claims. Elements of the original independent claims, which have been removed from the amended claims, have been added as new claims 21-24. No new matter has been added.

3. Rejections of Formality

The Examiner rejected claim 1 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards the invention. Specifically, the Examiner stated that claim 1 "is vague because the limitations 'RF grounding path' and 'RF path' appear to be the same element, but are recited by different names." In response, Applicant has substituted the term "RF grounding path" for "RF path" throughout the claims. Applicant submits that this amendment obviates the Examiner's rejection.

4. Prior Art Rejections

The Examiner rejected claims 1-2, 5-7, 10-11 and 13-15 under 35 U.S.C. §102(b) as being anticipated by Dishart et al. (U.S. Patent No. 5,999,134). Specifically, the Examiner stated that Dishart et al. "discloses an RF grounding path (Fig. 1, No. 50), a contact point (Fig. 3, No. 58) between the antenna (Fig. 1, No. 20) in the grounding path (50), and a second RF grounding contact (Fig. 2, ground symbol) of the RF path of the metal frame (column 7, lines 45-47) upon installation." Additionally, the Examiner rejected claim 13, stating that Dishart et al. discloses "two glass layers (Fig. 3, Nos. 14 and 16) [which] form a casing and have a contact area (64), a conductive path (Fig. 1, No. 40) residing on the glass, and a conductive gasket at the contact area (column 7, lines 43-48). Furthermore, with respect to claims 3-4 and 19-20, the Examiner states that the Essex advertisement discloses the recited adhesives for improved fastening of windshields.

In response to the Examiners rejections, Applicant respectfully submits that Dishart et al. either alone or in combination with the Essex advertisements fails to teach or suggest the process and system of the claimed invention.

Claimed Invention

The claimed invention provides a method and system for providing an RF grounding path from a glass mounted antenna to a metal frame of a vehicle. The RF grounding path is provided on the glass and extends from an antenna mounting location to an edge of the glass. The glass is adapted to be installed on the metal frame using an adhesive between the edge and the metal frame. This configuration facilitates the electrical coupling of the RF grounding path and the metal frame through the adhesive.

Such a configuration offers a number of advantages over the prior art techniques. Specifically, as stated in the application:

The antenna mounting no longer requires the removal of the headliner, regardless of whether the antenna is mounted at the manufacturing facility or as a part of an aftermarket windshield replacement. In the initial factory installation phase, the present invention makes it possible for the antenna

installation process to be conducted by the windshield provider. Thus, no changes need to be made to the production line where the windshields are installed to accommodate an additional antenna installation process. In the aftermarket phase, the present invention removes the problem of damaging the vehicle headliner during the antenna installation process because there is no longer a need to remove the headliner to install the antenna. As a result, the present invention provides for a more efficient, and thus less expensive, manner of achieving the RF ground from the antenna to the roof panel which is required to assure optimum antenna performance.

(Application page 9 line 15 through page 10 line 3.) These advantages are not realized in the prior art cited by the Examiner.

Dishart et al. (U.S. Patent No. 5,999,134):

Dishart et al. is directed to a glass antenna system with impedance matching. Specifically, the system comprises an antenna element, an impedance matching network secured to the substrate such that the impedance matching network is electrically coupled to a portion of the antenna element, and means to electrically interconnect a network to a feed line of an electromagnetic energy transmitting and/or receiving unit. Dishart et al., Abstract. The impedance matching network is used to transform the impedance of the antenna element to a desired impedance. As disclosed in Dishart et al., the impedance matching network is part of a connector which is secured to the glass substrate in a position such that the impedance matching network is electrically coupled to the antenna element. Id.

The antennas grounding to the metal frame of the vehicle is described in column 7 lines 14 - 35 which states as follows:

The matching network circuitry is formed on a circuit board 46 which further includes an output lead 48 that connects to the coaxial cable 30 and a ground lead 50 that is grounded to the vehicle body Ground lead 50 will operate as a ground for the power source. Although not limiting in the present invention, leads 48, 50 and 52 may be wires, e.g. 20 gage insulated copper wire, and lead wires may include additional connectors to connect the circuit board to the proper output or output device. Although not limiting in the present invention, each wire may include a JASO pin 56 as illustrated in Figure 2, or some other well known type of end connector. As an alternative, the ends of the leads may be incorporated into a wiring harness (not shown) to provide for a single connection of the connector 32 to the antenna system 10.

Therefore, Dishart et al. indicates that the grounding of the antenna to the body of the vehicle is accomplished through a copper insulated wire which may be connectorized or incorporated into a wiring harness. It is unclear how this arrangement is eventually grounded to the metal frame, although one would expect that the ground of the electrical system of the vehicle is used.

Argument

Dishart et Al. Alone or in Combination with the Other Cited References Fails to Teach or Suggest a System and Method for Providing an Rf Grounding Path on a Piece of Glass Which Is Electrically Coupled to the Metal Frame of a Vehicle Through the Adhesive That Secures the Glass to the Vehicle

Dishart et al. fails to teach or suggest a system and method for providing an RF grounding path on a piece of glass which is electrically coupled to the metal frame of a vehicle through the adhesive that secures the glass to the vehicle. This is an important aspect of the claimed invention as it provides, among other benefits, an RF grounding path for an antenna upon installation of the glass in the vehicle without the need to modify the vehicle or its construction. It is well established that to anticipate a claim or rendered a claim obvious each and every element of the claim must be disclosed in a cited reference or a combination of references. Here, Dishart et al. does not disclose a grounding path on the glass, nor does Dishart et al. disclose coupling the RF grounding path to the metal body through the adhesive which is used to secure the glass to the vehicle. *To the contrary*, Dishart et al. clearly recites that the leads from the antenna system are copper wires which are either connectorized to plug into a ground or are otherwise incorporated into a wiring harness. Therefore, the electrical connection of the RF grounding path to the metal frame must be addressed *separately* in the manufacturing process of the vehicle. This is a significant departure from the claimed intention.

Although the Examiner states that Dishart et al. discloses an RF grounding path 50 in Figure 1, this grounding path is not on the glass, but rather is a discrete copper wire which extends from the glass for connection to ground (see Figs. 3 and 6). Furthermore, although

the Examiner states that an RF grounding contact between the RF grounding path and the metal frame is disclosed in column 7 lines 45-47, this is not accurate. The section to which the Examiner refers is directed to the electrical connection between the antenna and the connector 32. It does *not* address electrically coupling the RF grounding path (i.e. 50 in Dishart et al.) to the metal body. Accordingly, since Dishart et al. alone or in combination with other references fails to disclose the elements of the claimed invention, the rejection should be withdrawn and the claims allowed.

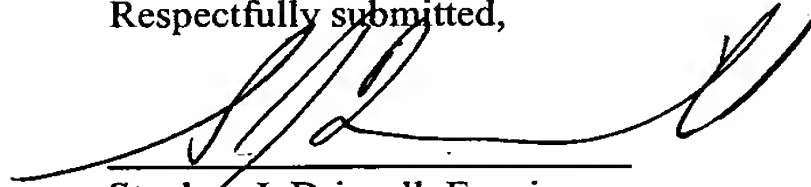
There Is No Motivation to Modify the System of Dishart et Al. To Provide a Rf Grounding Path on the Glass Which Is Electrically Coupled to the Metal Frame of a Vehicle Through the Adhesive That Secures the Glass to the Vehicle

There is no motivation to modify the antenna system of Dishart et al. such that an RF grounding path on a piece of glass is electrically coupled to the metal body through the adhesive. It is well established that, to support a *prima facie* showing of obviousness, there must be some motivation to modify the reference in accordance with the claimed invention. Here, there is no motivation to alter the copper leads 50 as disclosed in Dishart et al. such that they are instead traces on the glass which are electrically coupled to the metal housing through the adhesive. *To the contrary*, such a modification would alter the principle of operation of the antenna system of Dishart et al. Specifically, in a preferred embodiment, Dishart et al. discloses disposing a connector 32 within a notched area 36. Dishart et al. column 8 lines 42-52. In such a configuration, the leads, including the ground 50, are not on the surface of the glass, but rather are buried in a non-conductive sealant and extend from the glass through the side edge (see Fig. 4). Even in the alternative embodiment of Dishart et al. in which the connector 32 is mounted to the surface of the glass, the leads are not on the glass, but rather extend discretely from the connector 32 for connection to ground. See Dishart et al., col. 10, lines 25-49 and Fig. 6. It is unclear to Applicant how one would modify this configuration of discrete wires extending from the glass/connector such that an RF conducting path was on the glass to enable it to be electrically coupled to the metal frame of the vehicle through the adhesive. That is, the leads 50 seemingly will not come in contact with the metal frame other than through connection of the connector 56. At the very least,

one would need to modify the antenna system of Dishart et al. such that the lead 50 is no longer a discrete copper wire but rather a trace printed on the glass which would require upsetting the relationship of the connector 32 with respect to the glass 10. Such a modification--if even possible--would certainly alter the principle of operation of Dishart et al.. Accordingly, there can be no motivation for such a modification. The rejection should therefore be withdrawn and the claims allowed.

An early and favorable response is earnestly solicited.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'SJD', is written over a horizontal line.

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